202206UECM3463OE3b

Start again

Review of preview

Started on	Sunday, 14 August 2022, 04:56 PM
Completed on	Sunday, 14 August 2022, 04:56 PM
Time taken	6 secs
Grade	**0** out of a maximum of 10 (**0**%)

1
Marks: 1

For a certain insurance, individual losses in 2020 were Pareto distributed with parameters α = 3 and θ= 1400. A deductible of 140.0 is applied to each loss. In 2021, individual losses have increased 5%. A deductible of 140.0 is still applied to each loss. Determine the standard deviation of amount paid per loss. ______

Answer:

Make comment or override grade

Incorrect
Correct answer: 1625503.97
Marks for this submission: 0/1.

2
Marks: 1

Let the frequency distribution be negative binomial with r = 3 and β =4. Let the severity distribution has the exponential distribution with mean 40. Determine E(S ^ 400). ______

Answer:

Make comment or override grade

Incorrect
Correct answer: 311.1
Marks for this submission: 0/1.

3
Marks: 1

You are given:

- Claim counts per year follow a negative binomial distribution with r = 2, β = 4.00.
- Claim sizes follow a Pareto distribution with α = 6, θ = 10290.
- Claim counts and claim sizes are independent.

A stop-loss reinsurance contract reinsures 100% of the losses above an aggregate limit *u*. Using the normal approximation, determine the *u* for which the probability that aggregate claims are greater than *u* is 5%. ______

Answer:

Make comment or override grade

Incorrect
Correct answer: 40876.538687
Marks for this submission: 0/1.

4
Marks: 1

Let the frequency distribution be negative binomial with r = 4 and β =3. Let the severity distribution has the exponential distribution with mean 27. Determine $F_S(34)$. ______

Answer:

Make comment or override grade

Incorrect
Correct answer: 0.0269

Marks for this submission: 0/1.

5
Marks: 1

Claim sizes follow an exponential distribution with θ =4.50. Claim counts are independent of claim sizes, and have the following distribution:

n	0	1	2	3
P_n	0.43	0.29	0.21	0.07

Calculate $F_S(8)$. ______

Answer:

Make comment or override grade

Incorrect
Correct answer: 0.800836

Marks for this submission: 0/1.

6
Marks: 1

A random variable has an exponential distribution with mean 20. It is to be discretized using the method of rounding with span 70. Determine the mean of the discretized distribution. ______

Answer:

Make comment or override grade

Incorrect
Correct answer: 12.54294

Marks for this submission: 0/1.

7
Marks: 1

Prescription drug losses, S, are modeled assuming
the number of claims has a geometric distribution
with mean 10.00, and the amount of each prescription is 64.
Calculate E[(S-160)+]. ______

Answer:

Make comment or override grade

Incorrect
Correct answer: 504.883546

Marks for this submission: 0/1.

8
Marks: 1

Claim counts follow a Poisson distribution with mean 3. Claim sizes follow an exponential distribution with θ = 600. This severity distribution is discretized using the method of rounding with span 50. Claim counts and claim sizes are independent. A stop-loss reinsurance contract has a deductible of 130.0. Calculate expected losses paid by the reinsurance contract. ______

Answer:

Make comment or override grade

Incorrect
Correct answer: 1810.7693

Marks for this submission: 0/1.

9
Marks: 1

A company provides insurance to a concert hall for losses due to power failure. You are given:

- The number of power failures in a year has a Binomial distribution with parameters m = 8 and q = 0.35.
- The distribution of loss amount due to a single power failure is:

Loss Amount	10	20	30	40
Probability	0.28	0.28	0.28	0.16

- There is an annual deductible of 22.

Calculate the expected amount of claims paid by the insurer in one year. ______

Answer:

Make comment or override grade

Incorrect
Correct answer: 44.239649

Marks for this submission: 0/1.

10
Marks: 1

A stop-loss reinsurance pays 80% of the excess of aggregate claims above 1,090, subject to maximum payment of 440. For aggregate claims, S, you are given:

- $E[(S-1{,}090)_+] = 470$
- $E[(S-2{,}180)_+] = 235$
- The probability of an aggregate claim amount between 1,090 and 2,180 is zero.

Determine the total amount of claims the reinsurer expects to pay. ______

Answer:

Make comment or override grade

Incorrect
Correct answer: 94.862385

Marks for this submission: 0/1.